

REMARKS

Claims 14, 15 and 16 have been amended to correct inadvertent grammatical errors.
There is no change in the scope of the amended claims.

Support for new claim 19 is found by reference to Synthesis Example 6 in Table 1 at page 30 of the specification.

Claims 1-11 stand rejected, and claims 12-18 are withdrawn from consideration as being directed to a non-elected invention. If claim 1 is found to be allowable, Applicants respectfully request rejoinder of withdrawn claims 12-18 pursuant to MPEP §821.04(a), which claims primarily or secondarily depend from claim 1.¹

Review and reconsideration on the merits are requested.

Claims 1-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,877,264 to Logothetis et al in view of U.S. 2002/0040090 to Kurasawa et al. Logothetis et al was cited as disclosing perfluoroelastomer compositions having monomeric constituents and carbonyl groups substantially as claimed. The Examiner relied on Kurasawa et al as disclosing incorporation of carbon fibrils in polymeric compositions. Because the fibrils are said to have an art recognized function, the reason for rejection was that it would have been obvious to incorporate the fibrils of Kurasawa et al into the composition of Logothetis et al.

Applicants traverse, and respectfully request the Examiner to reconsider for the following reasons.

¹ As provided by MPEP §821.04(a), where restriction was required between independent or distinct products,..., and all claims directed to an elected invention are allowable, any restriction requirement between the elected invention and any non-elected invention that depends from or otherwise requires all the limitations of an allowable claim should be withdrawn.

The fluororesin composition of claim 1 comprises a fluorine-containing ethylenic polymer and a carbon fibril. The fluorine-containing ethylenic polymer is a carbonyl group-containing ethylenic polymer.

When the fluorine-containing ethylenic polymer contains a carbonyl group, the ability of the polymer to contact with or the affinity thereof for the carbon fibrils is thought to improve. Consequently, the polymer can fix the carbon fibrils to increase their mutual contactability as a result of adhesion of molecular chains of the fluorine-containing ethylenic polymer. As a result, the conductivity can be improved. See page 3, lines 22-32 of the specification.

Indeed, Examples 1-9 using carbonyl group-containing polymer demonstrate the unexpected effect of the invention in improving conductivity. In contrast, Comparative Example 6 shows inferior conductivity, even when carbon fibrils are dispersed in a carbonyl group-free polymer F-G (Table 2 of page 32 of the specification).²

The test data for Example 7 of the invention and Comparative Example 6 (both having a mass ratio of polymer : carbon fibrils of 98:2) is reproduced in part, as follows.

	Monomer Unit Composition	Carbonyl Group	Polymer Designation	Resistivity ³
Example 7 (invention)	TFE 98 mol% PPVE 2 mol%	25 per 1×10^6 main chain carbon atoms -CONH ₂	F-F	$0.6 \times 10^6 \Omega/\square$
Comparative Example 6	TFE 98 mol% PPVE 2 mol%	None	F-G	$10^7 \sim 10^8 \Omega/\square$

² As shown in Table 1 at page 30 of the specification, polymers F-A, F-B, F-C, F-D, F-E and F-F used to prepare Examples 1 to 9 of the invention contain the carbonyl group as shown in Table 1. Polymer F-G did not contain a carbonyl group. Example 7 (prepared from polymer F-F) is directly comparable to Comparative Example 6 (polymer F-G).

³ A lower resistivity means higher conductivity.

On the other hand, neither Logothetis et al nor Kurasawa et al teaches or suggests that a carbonyl group-containing polymer can fix the carbon fibrils to thereby provide enhanced conductivity.

Moreover, although Kurasawa et al mentions chlorinated olefins at paragraph [0043], this is not a description of a fluorine-containing ethylenic polymer as suggested by the Examiner.

Also, Applicants respectfully disagree that Logothetis et al and Kurasawa et al represent circumstances of combining known ingredients which function in an expected manner. Namely, Applicants do not claim just any thermoplastic resin composition containing a carbon fibril, but rather the specific combination of a fluorine- and carbonyl group-containing ethylenic polymer and a carbon fibril. As shown in the test data presented in the specification, there is no expectation that incorporating a carbonyl group into the fluorine-containing ethylenic polymer can fix the carbon fibrils to thereby provide enhanced conductivity (relative to a fluorine-containing ethylenic polymer not containing a carbonyl group).

For the above reasons, it is respectfully submitted that the present claims are patentable over Logothetis et al in view of Kurasawa et al, and withdrawal of the foregoing rejection under 35 U.S.C. § 103(a) is respectfully requested.

Withdrawal of all rejections, rejoinder of withdrawn claims 12-18 and allowance of claims 1-18 is earnestly solicited.

In the event that the Examiner believes that it may be helpful to advance the prosecution of this application, the Examiner is invited to contact the undersigned at the local Washington, D.C. telephone number indicated below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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